

A NEW SPECIES OF *TRIOXYS* (HYMENOPTERA: APHIDIIDAE)
PARASITIC ON A PECAN APHID

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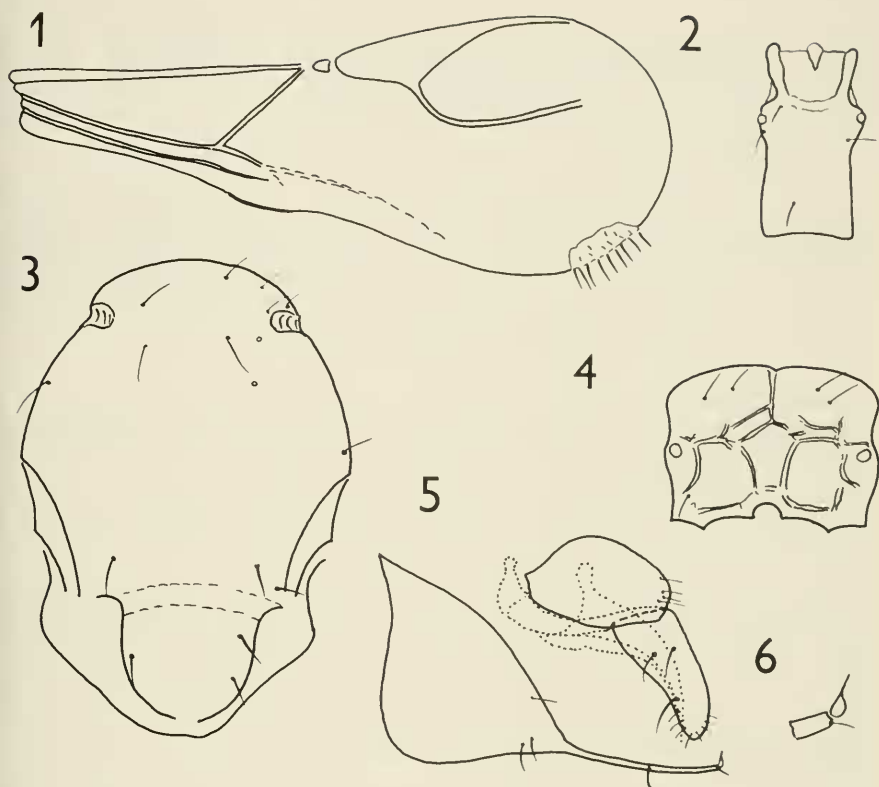
Abstract.—*Trioxys monelliopsis*, n. sp., a parasitoid of *Monelliopsis nigropunctata* (Gran.) on pecan, is described from Georgia. This is the first record of parasitism of this aphid in the field.

Parasitoids of aphid pests on pecan were first studied in connection with biological control of *Chromaphis juglandicola* (Kaltenbach) on walnut. The imported parasitoid *Trioxys pallidus* (Haliday) was found to parasitize *Monellia costalis* (Fitch) in the laboratory but not in the field (Schlinger et al., 1960; van den Bosch et al., 1962).

The parasitoid complex associated with the foliar-feeding aphids *Monellia costalis*, *Monelliopsis nigropunctata* (Granovsky), and *Tinocallis caryae-foliae* (Davis) on pecan was studied by Tedders (1977, 1978). Tedders successfully reared in the laboratory two introduced species, *Trioxys pallidus* and *T. complanatus* Quilis, but neither parasitoid species became established in the field. However, an unknown *Trioxys* species was found to parasitize *M. nigropunctata* in the field. Subsequent examination has shown that it represents a new, apparently indigenous species, which is described below. Thus, *M. nigropunctata* has been found to be parasitized by three *Trioxys* species in the United States: *T. pallidus* and *T. complanatus* in the laboratory (establishment not yet documented), and *T. monelliopsis*, n. sp., in the field.

Trioxys (Trioxys) monelliopsis Starý and Marsh, NEW SPECIES

This species is easily distinguishable from other Nearctic species of *Trioxys* by characters on the prongs of the last abdominal sternum in the female. These prongs are hairless dorsally and bear a single claw-shaped apical bristle (Figs. 5, 6). Recently, a closely related species of *Trioxys*, a parasitoid of a *Myzocallis* species, has been described from Mexico (Starý and



Figs. 1-6. *Trioxyx (T.) monelliopsis*, ♀ paratype. 1, Forewing. 2, Tergum 1. 3, Mesonotum. 4, Propodeum. 5, Genitalia. 6, Apex of the prong, detail.

Remaudiere, *in press*). This species is distinguishable from *T. monelliopsis* by the shape of the apical bristle on the prongs. The bristle is ovoid-shaped to droplike in the Mexican species and claw-shaped in *T. monelliopsis*. In Starý's (1978) key to European species, *T. monelliopsis* will run to couplet 14 but is distinguished from *T. curvicaudus* Mackauer and *T. phyllaphidis* Mackauer by the hairless dorsal surface on the abdominal prongs.

Female.—Eyes large. Gena equal to $\frac{1}{7}$ of eye length. Tentorial index (i.e., tentorio-ocular line over inter-tentorial line, relative length) 0.3. Antenna 11-segmented, slightly thickened to apex, reaching to about middle of abdomen. Mesonotum (Fig. 3) with sparse hairs. Propodeum (Fig. 4) distinctly areolated, central areola somewhat irregular in shape. Forewing (Fig. 1) with pterostigma almost $3\times$ as long as wide, metacarpus equal to about $\frac{1}{2}$ pterostigma length, and radial vein reaching about $\frac{2}{3}$ of its possible length.

Tergum 1 (Fig. 2) twice as long as wide across spiracles. Spiracular tubercles distinct, situated before middle. Distance between spiracles and apex of tergum 1 distinctly longer than width across spiracles. Genitalia (Fig. 5) with prongs slightly arcuate, hairless dorsally, and with 1 claw-shaped apical bristle (Fig. 6).

Head brown, clypeus and mouthparts yellow brown. Scape brown, yellowish at apex. Pedicel and flagellomere 1 yellow, 2 mostly yellowish, rest brownish and darkened to apex. Thorax brown. Wings hyaline, venation brownish. Legs brown, trochanters, base of tibiae and tarsi (except dark specimens) yellowish. Abdomen brown, tergum 1 and triangular spot at base of tergum 2 yellowish, ovipositor sheaths light brownish, prongs yellowish.

Body length about 1.4 mm.

Male.—Unknown.

Holotype female.—Byron, Georgia, 12-VIII-1975, W. L. Tedders, ex *Monelliopsis nigropunctata* (Gran.) on pecan. Deposited in the National Museum of Natural History, Washington, D.C. (USNM).

Paratypes.—2 ♀, same data as holotype, deposited in USNM and in collection of P. Starý, Czechoslovakia.

Remarks.—The studies of Tedders (1977, 1978) show that this species is apparently specific to *M. nigropunctata* as it was not reared from other aphid species on pecan despite intensive rearing activities. Furthermore, it seems to be a rare species on the target host in the observed area. The mummy is yellowish white. Of the three mummies available, two were alate adults and one was a fourth-instar immature aphid.

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